

Jitter spectrum measurements with a digital oscilloscope

February 21, 2022

Clockworks Signal Processing released an application note that measures jitter using a SIGLENT XE series of oscilloscopes.

The basic idea is simple enough – measure the clock edges and see if they are all exactly evenly spaced or if they change (jitter) over time. A non-uniform clock fed to an ADC or DAC will produce FM and/or AM effects, as well as raise the noise floor. The effects of the clock jitter depend on the nature of the jitter. Random jitter can have less objectionable audible effects than jitter dominated by a specific frequency. There are many ways for interfering signals to couple into clock lines to cause problems.

The link below takes you to the note that looks at using a garden variety DSO (200 MHz BW, 1 Gsample/sec) to see if it can take the place of a \$50,000 setup that would normally be wheeled out to investigate a jitter problem.

<https://clk.works/2020/05/jitter-spectrum-measurement-with-a-dso/>



North American Headquarters

SIGLENT Technologies NA
6557 Cochran Rd Solon, Ohio 44139
Tel: 440-398-5800
Toll Free: 877-515-5551
Fax: 440-399-1211
info@siglent.com
www.siglentamerica.com/

European Sales Offices

SIGLENT TECHNOLOGIES GERMANY GmbH
Staetzlinger Str. 70
86165 Augsburg, Germany
Tel: +49(0)-821-666 0 111 0
Fax: +49(0)-821-666 0 111 22
info-eu@siglent.com
www.siglenteu.com

Asian Headquarters

SIGLENT TECHNOLOGIES CO., LTD.
Blog No.4 & No.5, Antongda Industrial Zone,
3rd Liuxian Road, Bao'an District,
Shenzhen, 518101, China.
Tel: + 86 755 3661 5186
Fax: + 86 755 3359 1582
sales@siglent.com
www.siglent.com/ens